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Lewiston State Normal School Bulletin

I.—MANUAL TRAINING AND NATURE STUDY.
II.—ANNOUNCEMENTS FOR THE SESSION 1906-1907.

Published Quarterly by the Lewiston State Normal School at
Lewiston, Idaho.

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GENERAL VIEW SHOWING THE MAIN BUILDING

VOL. I. AUGUST, 1906 NO. 4

Lewiston State Normal School Bulletin

I. Manual Training as established in the State Normal School at Lewiston.

II. Nature Study as Presented in Lewiston State Normal School.

III. Announcements for the Session 1906-1907.

Published Quarterly by Lewiston State Normal School at
Lewiston, Idaho.

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Calendar

Session 1906-1907

Registration	Tuesday, September 11, 1906
First Quarter	Closes Friday, November 16, 1906
Thanksgiving Vacation	Thursday, Nov. 29, Friday, Nov. 30, 1906
Christmas Vacation	Begins Saturday December 21, 1906, Exercises Resumed Wednesday, January 2, 1907
First Semester	Closes Friday, January 25, 1907
Second Semester	Begins Monday, January 28, 1907
Washington's Birthday	Friday, February 22, 1907
Third Quarter	Closes Friday, April 5, 1907
Fourth Quarter	Begins Monday, April 8, 1907
Field Day	Friday, May 10, 1907
Memorial Day	Thursday, May 30, 1907
Commencement Exercises	Sunday, June 9, Wednesday, June 12, 1907

Manual Training Courses

Established at

Lewiston State Normal School

In the work of preparing teachers for efficient service in the schools of the State of Idaho it seems important that every legitimate and essential department of instruction should receive due attention. Heretofore, by reason of the crowded conditions in all departments it has seemed impracticable to offer courses in Manual Training but with the provision of better buildings and equipment the school is now able to offer courses of instruction for all candidates for life certificates.

Manual Training courses have also been provided for the grade children in the Training Department. All courses are under the direct supervision of Miss Ingersoll. Teachers who, besides being proficient in ordinary grade work, are well prepared to take charge of Manual Training work in the public schools of the state, will readily secure positions which untrained teachers will be unable to fill satisfactorily. This will bring better rewards in the way of salary and tend to take Normal trained teachers out of competition with untrained teachers. As the work is introduced gradually throughout the state, there will be a gradually increasing demand for teachers who can teach some of the common branches during a portion of the day and carry on work in Manual Training for the remaining part of the day. Better salaries will be paid for such teachers than are paid for those who teach the common branches only.

This plan will enable the schools in even smaller communities of the state to introduce effective courses in Manual Training and, once introduced, its value will readily be appreciated and its future development secured. In the State Normal School, the fact that the training work and the grade work are in one building under the same management, makes it possible for teachers to prepare themselves for teaching Manual Training simultaneously with their course of instruction in the Manual Training itself.

The courses offered in the department at present are briefly outlined in two main groups, as follows:

I. Training Courses for Teachers.

II. Courses for the grades in the Training School.

The courses for the training of teachers are presented in connection with (a) The Primary Grades, (b) the Intermediate and Grammar Grades, (c) Observation of Teaching and Practice Teaching.

These courses comprise:

1. For the Primary Grades

(a) Paper and Cardboard.

Paper cutting for illustration work and as a study of form and design leading to the use of paper and cardboard as materials of construction. This results in the making of booklets, boxes, cases, photo mounts, paper sacks, labels, bookmarks, etc., and gives simple exercises in bookbinding.

(b) Clay Modeling.

The use of clay in representing forms of solid structure, in modeling familiar objects and in beginning work in pottery. This comprises also the modeling of type forms of bowls, tile, candle-sticks, vases and jars.

(c) Weaving and Basketry.

The materials used are mainly paper strips, yarns, raffia, grasses and rope. With these, various textile patterns are constructed. In weaving the work is directed toward the making of mats, rugs, etc., using a simple loom where needed. In Basketry the raffia is utilized and the various stitches are worked out and applied in the manufacture of baskets of various shapes and sizes.

(d) Wood Construction.

The selecting, assembling and fastening of thin wood to form pieces of furniture, boxes, houses, etc. Brads and glue are used in this constructive work with wood.

2. For the Intermediate and Grammer Grades

(a) Woodwork.

Exercises involving the use of simple hand tools are presented to prepare students for teaching woodwork in elementary schools. The principles and practice of knife and bench sloyd, the educative possibilities of the art crafts, the suggestion of industrial problems and the correlation with mathematics, physics and drawing are all made bases for the course in woodwork. From the fourth grade up, the exercises are planned to involve the use of the sloyd bench and tools. A regular sequence of exercises is planned for about four-fifths of the course while the remaining time is set aside for each student to follow out some special project in construction.

(b) Bent Iron and Sheet Metal.

In the Grammar Grades, the manipulation of thin iron is made a basis for the acquisition of a knowledge of the properties of metals as contrasted with those of other materials of construction already used. Decorative and industrial design receive the chief attention in work with iron.

(c) Drawing and Design.

The course of drawing for the Grammar Grades is presented in such a way as to show (1) the development of the idea of projection and the working drawing, (2) elementary geometrical constructions, (3) the use of diagrams, (4) proportion in architecture, (5) elements of machines. The course in drawing is planned to serve the student in the demands for Manual Training design.

3. Observation and Practical Teaching

The observation of teaching and the practice teaching will be conducted as are the special methods courses in all departments. The head of the department will have charge of the department supervision of the grade work and will direct the work by consultations and type lessons.

Courses in Manual Training

For the Grades in the Training School

The general purpose of the work is to give the pupil a broad experience in using a number of materials and tools, thus affording variety in mental activity and discipline and giving large opportunities for self expression and progressive individual growth. The work also has a directive influence upon the child serving to attract him toward some definite line of useful occupation in after life.

The general arrangement of the exercises is such as will be conducive to right physical development. Free hand movements, with little demand for delicate adjustment of the muscles of the fingers, are presented in the first years of the course. These lead to more careful manipulation and to a higher degree of accuracy in work done in later grades. The last work in the Grammar Grades is such as to require considerable skill on the part of the pupil and a general ability to express himself well through handwork. Each exercise leads naturally to the next providing the necessary training for such. Pupils are trained to make designs and to appreciate good designs. Throughout the course the opportunities for correlation with work in Drawing and Mathematics are kept duly prominent.

FIRST GRADE

1—Paper and Cardboard.
2—Clay Modeling.
3—Weaving.

SECOND GRADE

1—Paper and Cardboard.
2—Clay Modeling, Decorative Designs, etc.
3—Weaving and Basketry.

THIRD GRADE

1—Paper and Cardboard, introducing new tools and heavier materials.
2—Clay. Geometrical and conventional flower designs. Statuary based upon animal subjects.
3—Weaving and Basketry, involving the use of the hand loom, shuttle and with modified Indian loom.

FOURTH GRADE

1—Paper and Cardboard. Heavier work in box and book cover making, book covers, portfolios, etc
2—Weaving and Basketry. Study of looms and textiles and the conditions involved in modern machine weaving. Making of useful articles such as rugs, pillows and baskets of sizes in actual use.
3—Woodwork. Exercises involving the use of a few simple tools such as the pencil, try-square, sloyd knife, hack saw, hammer, smoothing plane, brace and bit, file. The work is done in soft wood of small dimensions and small articles of special interest to the pupils are made. Some of these are wagons, furniture, bird houses and wheelbarrows.

FIFTH GRADE

1—Woodwork. Continuation upward from the exercises of the Fourth Grade leading to work with heavier materials and introducing three dimension studies. More attention is given to solid forms, such as the squaring of sticks. The manufacture of articles of especial interest.

SIXTH GRADE

Woodwork. In this grade the full course in bench work in wood begins. The rules for surfacing and squaring a piece of stock, names of common tools and manner of using them are taught along with such fundamental processes as will apply in later work. Exercises in sawing, involving squaring with try-square and pencil, cross cutting, gauging with marking gauge, rip sawing, diagonal mitre sawing, etc., are introduced in connection with the making of articles as directed by the teacher.

SEVENTH GRADE

Woodwork. Continuation of the work of the former grade and the application of such knowledge to more difficult constructive work. Pupils are made responsible for tools and are taught how to care for edged tools and keep them in working condition.

EIGHTH GRADE

Woodwork. The continuation of the work of the Seventh Grade and the assignment of pupils to original constructive work in wood. In this grade the activity is directed according to the choice of the teacher for each individual of the class. The work is more extensive and less intensive than that assigned for the training of students in the secondary work of the Normal School course.

The work in all grades will be varied and enlarged as the development of the department permits.

Courses in Domestic Science

Session 1906-1907

During the next session the courses offered in Domestic Science will be based entirely upon Sewing and this work will be carefully graded to meet the demands for children of different ages. This work will commence in the Fourth Grade, following closely upon the preceding work in Weaving and Basketry. This work is planned for the girls of the grades and also of the Normal School.

FOURTH GRADE

Sewing:

Practice stitches on canvas; running, basting, waist-seaming, over-seaming, over-casting, catch-stitching, cross-stitching. The application of stitches to the making of some useful article by the pupil. Correlation with Nature Study and Geography in the study of Cotton. Study of hems and hemming and their application as above.

Sewing exercises in the Fourth Grade will be conducted in the Fourth Grade Room.

FIFTH GRADE

Sewing:

Practice Darns; the different designs. Application of darns in exercises on cloth. Making of a doll's outfit, cutting to scale. Application of the above in the making of a simple dress for a small girl. Study of materials used.

SIXTH GRADE

Sewing:

Practice patching; hemmed patches in gingham and calico; over-seamed patches in gingham and linen; circular patches in striped goods. Application to towels, table-linen and garments. Repetition of the above exercises based upon woollen goods. Study of materials.

SEVENTH GRADE

Sewing:

Drafting of patterns for under-garments. Application of preceding work to the cutting, fitting, trimming and finishing of under-garments. Exercises of the Fifth, Sixth and Seventh grades are given in the sewing room on the first floor of the Training School building.

EIGHTH GRADE

During the coming session the Eighth Grade pupils will take all sewing exercises with the Seventh Grade pupils.

Food:

Under the combined supervision of the science department and the Manual Training Department a course based upon foods will be given during the second semester of the Eighth Grade, such course to comprise a review of the general physiology of the digestive, vascular and respiratory organs and, in addition, a laboratory study of foods, and their preparation, water and air. This course will end with work in the kitchen laboratory.

Nature Study

EARL S. WOOSTER.

Department of Natural Science.

By Nature Study is understood all the work in elementary science that is done in the grades. In planning the work, the main consideration was for the educative side, always keeping in mind that the same work may be both educative and informative. In general, and work may educate in either or both of two ways, by training the power of observing or of reasoning. To train the observation such topics were selected as would compel the child to obtain his facts from a *consideration of the thing or phenonenon itself* rather than from a consideration of the statement of the text or teacher concerning it. To train the power of reasoning the child is taught to observe and then deduce a reasonable conclusion from the observed facts, always urging the necessity of basing a conclusion upon as many facts as it is possible to obtain and always remaining open to the influence of newly observed facts.

In determining the sum total of work to be done in any grade of set of grades we must be guided by certain vital considerations, as, the ultimate aim, the capabilities of the children, locality, and teacher.

Each administrative officer must decide upon the ultimate aim for herself or himself and lay out the course of study in harmony with the decision. Obviously the prospective college student, teacher and man of business will need different facts as a part of their equipment and must be handled according to the end in view. In many cases the child will have no predetermined vocation and the teacher can only give him the broadest and most sane possible preparation for living and bettering his own life, to the end that he may develop the strongest, best, most lovable and beautiful character. Certain factors are essential to such a character, among these are keenness and accuracy of observation, sanity of judgment, and mental honesty. The development of these is brought about by a certain method of work rather than by the consideration of any special topics. Notwithstanding this it is true that certain lines of work offer special advantages for the exercise of particular powers and so force their choice upon the teacher. These questions are considered at length in such books as "Nature

Study and Life," by Hodge and "The Teaching of Biology," by Lloyd and Bigelow.

"We may state the aim of science studies as a responsive *insight into nature* with a view to a growing adjustment to the physical and social environment. It is an interested understanding of the materials and activities of the world's great workshop, an appreciation of the variety, beauty, harmony and law of nature's handiwork. * * If we follow the higher aim, to give the child a personal insight, a sympathetic appreciation of the realm of nature, so far as can be grasped by his mind, if we seek to enshrine all this knowledge in his tastes, interests, and feelings, we shall find this phase of culture an essential agency in social equipment and in personal character development. It appeals directly to his mental appetites, to his aesthetic tastes, religious instincts, and human wants. It supplies him with the materials and tools for the exercise of his present urgent activities, and its utilities are found to be so interwoven with the comforts and progress of men that nature is seen to lay down the conditions of life. Every child, therefore, should go into nature studies up to the full measure of his powers, and come out enriched in knowledge, in discipline, in sympathetic insight and in practical power." 1

The children come to us with a great variety of previous experience and preparation. Two extreme trpes are (1) the distinctly poor class of a great city like New York who know nature only through the paving stones and the great seasonal changes, who do not know the look of a blade of grass, a cow, or fruit tree, but who do know much about the manufacture of certain natural products, and [illegible] pure rural type that has always seen and learned [illegible]ic and wild plants and animals and the machinery [illegible]d with the farm but who may never have seen a manufacturing establishment in their lives.

Between the two is an average case as it might be called and it is for this average case that the courses of study are generally arranged. In this state the average case is that of the small city or village and this will be the type of mind during the discussion of the course of study.

The locality in no small way determines the character of the work undertaken. If the place be a small town or city where small ponds are abundant and near where vegetation

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1. Charles McMurry in "Special Method in Elementary Science", page 18.

both wild and tame abounds the collection of material will be easy and the choice of topics nearly unlimited. If in an irrigated country with no ponds or streams then the problem is different but hardly more difficult.

In the past many lessons in nature study have not been a success because of the lack of any definite preparation on the part of the teacher for such work. A teacher should never attempt to teach any subject without some definite preparation for the work. A teacher with no academic basis for science work will be very much handicapped in her work. A good understanding of the scientific method of work will enable one to apply that method to a subject with which one may be quite unfamiliar. But in such a case the results will not be commensurate with the effort expended. Every teacher should have the broadest possible outlook for the teaching of elementary science, that means the wide academic preparation of several branches of science well worked out. Concerning this point every teacher should read what Lloyd and Bigelow have to say in "The Teaching of Biology."

In our practice school the work is given to the teachers-in-training in outline form as appended and they are required to elaborate the work and prepare an outline in detail of the work they are to do during their term of instruction.

The work as a whole is divided subjectively into: general observations, plant studies, animal studies and natural phenomena. Any grouping that is reasonably short will leave a portion of the work unclassified or put it into a class where it does not belong, and this grouping is no exception. Chronologically the work falls first into that of the primary, intermediate and grammar groups and then into the work of the various grades. Each grade or year is divided into two semesters or terms.

The following outline represents what will or may be done in our grades the coming year. The actual work will be determined by the factors already mentioned.

PRIMARY GROUP

First Grade—Fall Term.

1—General observations. Have the children observe the weather changes and learn the relative terms that are used to express the same. Keep a weather calendar on the board.

2—Plant studies. Learn to recognize four fall plants, fruits and flowers. Learn four trees and follow them through their preparation for winter. Simple studies in the care of house plants.

3—Animal studies. Learn to recognize six birds. Study one pet of the children. Study the tadpoles in the aquarium emphasizing the developmental side of the life.

4—Natural phenomena. Note the changes in length of day and the gradual change of season.

First Grade—Spring Term.

1—General observations. Weather calendar. Clouds. Continuation of the fall term.

2—Plant studies. Planting of the school garden and the studies in germination of the bean and pea.

3—Animal studies. Study of some insect that frequents the garden. Study of some appropriate fish in the acquarium.

4—Natural phenomena. Same as fall term, noting that the changes are the reverse of those in the fall.

Second Grade Fall Term.

1—General observations. Continue the weather calendar. Study common forms of clouds for their names. Mark on calendar.

2—Plant studies. Continue recognition work with fruits and trees. Plant some seeds of fruit trees. Study some bulb and plant in the garden. Study of trees preparing for winter. Look for beauty of outline and correlate with drawing.

3—Animal studies. From studies of fish in the aquarium, food and eating. Some common food animal. Metamorphosis of insects. Gather specimens for over winter watching and study. Continue work with birds along the line of the first year work. Learn to recognize several by the song.

4—Natural phenomena. Study some of the more prominent effects of the weather changes as: freezing, rain, snow, etc.

Second Grade Spring Term.

1—General observations. Same as preceding term.

2—Plant studies. Further study of bulbs. Watch the buds on all trees and plants for signs of growth and pay particular attention to the buds on the fruit trees. Plant the garden and continue the studies in germination.

3—Animal studies. Study of frog spawn. Salmon.

4—Natural phenomena. Soil in motion. How soil is made.

Third Grade Fall Term.

1—General observations. Migrating birds. Record of temperature.

2—Plant studies. Dissemination of seeds. Grape cuttings and layers. Propogation of grapes and strawberries.

3—Animal studies. Grasshopper, cricket or boxelderbug. Squirrel, rabbit.

4—Natural phenomena. Fire, burning—history, uses of. Fuels. Matches, kindling.

Third Grade—Spring Term.

1—General observations. Signs of returning spring and summer. Appearance of birds and insects. Average temperature, clouds, storms, etc.

2—Germination of seeds in window boxes for later transplanting to the school gardens. Study of the soil, water, light and heat conditions for the proper growth of the seedling. Detailed study of the potato plant. Budding and grafting. Garden weeds.

3—Animal studies. Metamorphosis of butterfly or moth. Insects that are injurious to the garden. Animals that may injure the garden and the reasons for fencing and how to fence.

4—Natural phenomena. Evaporation and the relation of the surface exposed and temperature of the liquid, to the rapidity of the evaporation. Correlate with soil studies.

INTERMEDIATE GROUP

Fourth Grade—Fall Term

1—The general observations will probably attend to themselves from this point, if the teacher be at all well prepared to follow the lead of the children's interest.

2—Plant studies. Detail study of ripe corn plant. Compare with other food plants studied. Graft apple and pear. Kinds and uses of grapes. Recognition of several common varieties.

3—Animal studies. Insects injurious to fruit trees. Life history and how to combat the evil. Human anatomy—bony skeleton—uses, parts and gross structure.

4—Begin the study of the rocks of the gravel bars. Weathering.

Fourth Grade—Spring Term.

2—Plant studies. Further study of the plants of the school garden. Pruning, purpose and methods. Tomatoes and egg plant and their relation to the potato. The cooking of the principal food plants.

3—Animal studies. Study of hawks and eagles.

4—Importance of cleanliness in the kitchen. Chemistry of cleaning—soap and the soap industry. How to remove grease from cloth. Disinfectants.

Fifth Grade—Fall Term .

2—Plant studies. Cereals and the harvest of grains. Harvesting machinery and the transportation of the crop. Climatic conditions that influence the growing of the various crops.

3—Animal studies. Insects that are injurious to the crops mentioned in 2. Domestic fowls. Human anatomy—the muscles; gross structure. Temperance in eating and drinking.

4—Water in all of its forms. Ice—natural and artificial. Source, care, uses, etc. Steam. History of the steam engine.

Fifth Grade—Spring Term.

2—Detailed study of the mosquito. Life history and prevention and extermination. A "Back-door Brigade" against tin cans and other places for breeding. Repeat for flies.

3—Plant studies. Detailed study of several food and forage plants. Study of moulds and yeast. Spores.

4—Study of the lever and some simple machines. Some common tools.

Sixth Grade—Fall Term.

2—Plant studies. Begin the systematic study of plants along the line indicated in Leavitt's Botany.

3—Animal studies. Physiology adapted from "Physiology for the Laboratory," by Brown.

4—Simple quantitative experiments in measurements and simple physical experiments.

Sixth Grade Spring Term.

2—Plant studies. Study of shade trees, systematic botany. Apple scab, rose mildew, peach curl, etc.

3—Animal studies. Study of ants and bees. Also wasps if available.

4—Study of atmospheric changes and pressure conditions.

GRAMMAR GROUP.

Seventh Grade Fall Term.

2—Plant studies. Reserved for spring term.

3—Animal studies. Detailed study of some invertebrae as the crayfish. Have some live specimens in the aquarium. The angleworm is also a good type to study.

4—Simple lessons in hydraulics.

Seventh Grade—Spring Term.

2—Plant studies. Continue the systematic botany with the work in the school garden.

3—Animal studies. Continue the systematic physiology.

4—Pumps and pumping stations. The city water supply.

Eighth Grade.

The work of the grade consists of regular laboratory work in zoology, physics and physiology, using one of the usual loose leaf systems of notebooks.

Announcement of Publication

Professor Talkington has just issued a very carefully prepared work on "The State Constitution and School Laws of Idaho."

The former is treated section by section, just as the United States Constitution in an ordinary Civil Government, while the topical method is used in the treatment of the latter.

By way of illustration much supplementary data of interest to the general reader has been introduced.

Both subjects are fully indexed and will be found very helpful to the student, the teacher, the school official, the applicant for a certificate or to anyone interested in the resources and institutions of the state.

The book comprises something over two hundred pages, is bound in cloth, copiously illustrated with cuts of the chief buildings of all the state institutions as well as those of its leading resources and industries and is strongly endorsed by prominent educators of the state.

The price is $1.25 net, 10 cents being added for postage, and may be had by addressing Prof. H. L. TALKINGTON, Lewiston, Idaho.

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